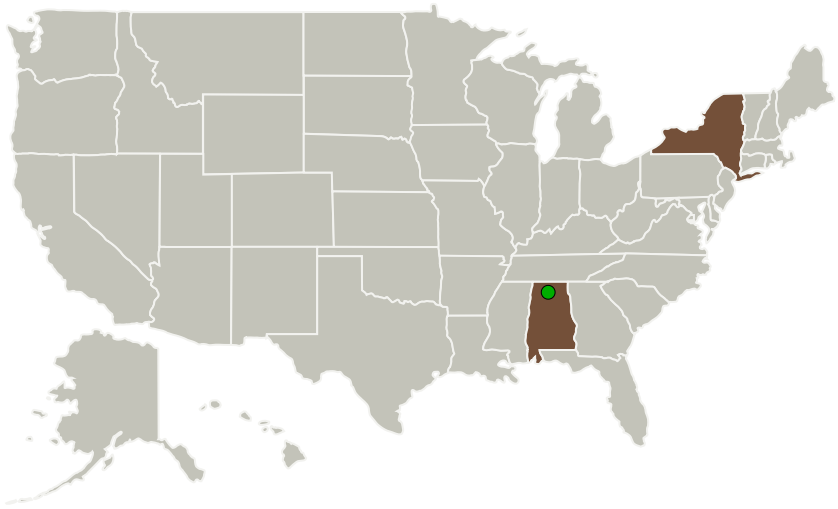
Removing Mid-Spatial Frequency Errors with VIBE, Phase II

Completed Technology Project (2011 - 2013)

Project Introduction

The Optimax VIBE finishing process is a fast (<60 second), full-aperture, conformal polishing process incorporating high frequency motion that rapidly eliminates mid-spatial frequency (MSF) errors created by deterministic polishing. During Phase I, we were able to show feasibility that the Optimax VIBE finishing process was able to reduce the effects of mid-spatial frequency (MSF) errors on flat sub-aperture polished surfaces without negatively affecting the surface figure. With future funding, we anticipate advances this process will result in a cost-effective way to produce ultra-low MSF error curved surfaces for both NASA and non-NASA applications.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
Optimax Systems, Inc.	Lead Organization	Industry	Ontario, New York
Marshall Space Flight Center(MSFC)	Supporting Organization	NASA Center	Huntsville, Alabama

Primary U.S. Work Locations	
Alabama	New York

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Project Transitions

June 2011: Project Start

June 2013: Closed out

Closeout Documentation:

- Final Summary Chart*(https://techport.nasa.gov/file/139282)*

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

Optimax Systems, Inc.

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

Jessica D Nelson

Co-Investigator:

Jessica Nelson

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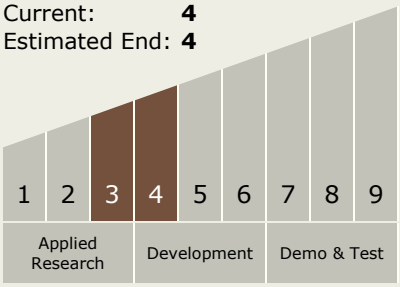
Technology Maturity (TRL)

Start: **3**
Current: **4**
Estimated End: **4**



Technology Areas

Primary:

- TX08 Sensors and Instruments
  - TX08.2 Observatories
    - TX08.2.1 Mirror Systems

Target Destinations

The Moon, Mars, Outside the Solar System, The Sun, Earth, Others Inside the Solar System